

Parasitic Problems

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External Parasites

Protozoa (Single-celled animals)

Though only one cell, these can be large enough to be seen with the naked eye.

White Spot/Ichthyophthirius multifiliis (short form, ich or ick)

Often the first sign of infestation is that the guppy rubs its body against things in an effort to rid itself of the parasite. Eventually, the entire body becomes covered in white cysts that look like salt or sugar. The gills may be irritated. The parasite penetrates the skin and becomes a cyst, feeding on blood and skin cells. It grows for a few days until it drops to the bottom of the tank and forms into a cyst and cell division creates up to 1,000 zoospores, which try to attach to a fish within 70 hours - this is the infectious stage. This cycle takes about 5 days at 27°C. (The higher the temperature, the faster its life cycle is completed). The best time to attack Ich is when the parasite leaves the fish, so raising the temperature helps to aim the medication at this stage. The fish should be quarantined for a month after treatment so they cannot infect other fish.

Ich Cures

Malachite Green : A well-known cure, however, it has some drawbacks: It may affect the nitrogen cycle; it is easily deactivated by organic matter; it is a strong dye which stains some plastics and silicone sealants; and some fish (scale-less catfish and tetras) do not tolerate it. Two to three doses are usually used in a 7 to 10 day period. Note: This is known to cause cancer and should not be handled by anyone who is pregnant.

Quinine (hydrochloride or sulphate): When using this, use brisk aeration; after the Ich falls off the fish in a few days, do not change water, and treat again only if the parasite attaches to the fish again. Quinine is a strong chemical. This drug is available in Super Ich Plus (which also contains Malachite Green), made by Aquatronics.

Formalin: This works against ich as well. A short-term bath is probably the best strategy with this strong chemical, which kills the good bacteria in your tank and filter. Cleaning the tank during treatment helps get rid of the parasite. Formalin can be combined with Malachite Green.

FWP (Fresh Water Parasite): This is a natural cure developed by Chem-Marin. Its ingredients are cayenne pepper based. This is a strong pepper that should be used with caution, since it

can burn your eyes or open cuts. After using it, the water may be more acidic, but since most guppy water is alkaline it should not pose a problem.

Copper: Commonly used against white spot, Aquarisol is a well-known remedy that contains copper. Considerations: though guppies are rather tolerant, some fish are not, including invertebrates, some catfish, and some plants; some helpful bacteria is damaged; it is absorbed by organic material; it is more toxic in soft water than in hard water; some water conditioners which remove heavy metals will remove it. Regular daily additions of copper may be needed for about 2 weeks.

Salt: Since guppies can endure high salt content, this is always an option when proprietary remedies are not. Soft water species are very sensitive to salt and it is not recommended if they are involved. Plants may be damaged. Keeping salt in your guppy tanks helps prevent outbreaks. Salt is the safest possible treatment. See 'Salt treatments/ Salt Baths' section on the 'Guppy Ailments and Remedies' page for more information.

Guppy Disease

There is actually a disease caused by a protozoan that is more commonly seen in guppies than in any other fish. This is a tiny parasite that attacks the skin and may even reach as far as the muscles or bloodstream. They may get large enough to resemble ich and the scales may protrude, swimming is difficult and the skin usually falls off as well. If this is not taken care of quickly it can spread throughout the tank and be very difficult to control. Some treatments that should work are Malachite Green, Copper (try Aquarisol), and Formalin (use this with caution). Clout is a good name-brand remedy which should also take care of it. This disease should not occur in a clean, warm, guppy tank.

Velvet Disease (Oodinium)

Is similar to ich however these organisms are smaller, like gold-coloured dust, while ich is white, larger and more rounded. Velvet disease ("rust disease") is highly contagious, however it is a curious dinoflagellate that contains chlorophyll-like plants, including algae. It may be difficult to see until a heavy infestation develops. Bleeding can eventually occur, with the skin peeling off. When the gills are affected the fish will have difficulty breathing and may die from asphyxiation. Velvet is a rather uncommon disease. The remedy often used for velvet is copper (try Aquarisol by Aquarium products). The fish affected should be quarantined and the tank darkened for best results.

Sliminess of the Skin

Also called Costia, (one protozoan parasite which may be involved). A greyish-white film of excess mucus covers the fish's body, most obviously on the eyes or darker body areas. The fish's gills may swell and breathing appears difficult. It is caused by body parasites, which may be protozoans, monogenetic flukes, or often a combination. Try raising the temperature and adding salt, or more salt if you currently use it. If there is no improvement, try Clout, Methylene Blue, or an ich remedy. In the case that the fish is still in distress, use a

fluke insecticide. Formalin is another effective remedy. The fish should be isolated for treatment.

Larger External Parasites (Multi-Celled)

Anchor Worm

A crustacean (copepod), it is not really a worm. It resembles a twig with a "v" on the end as the female hangs out of the fish with a deep anchor. It can be up to 2 cm long and has 2 egg sacs hanging from it. The fish can become weak and thin. The eggs are released and a hole is left in the fish which may become infected. This parasite usually affects only cold-water fish such as goldfish but is sometimes seen in guppies that have been raised in ponds or were recently imported. In my experience, it does not transmit very well in an aquarium, however a fluke insecticide should be used.

Flukes

These are smaller than anchor worms, too small to be visible to the naked eye. There are several types of flukes (monogenetic) that show up in aquariums. These are all flatworms that grow only as long as 1 mm in length. Younger fish are particularly affected due to their size and action must be immediate.

Fluke Treatments:

Organosporous insecticide, trichloromethyl: Luckily, this takes care of all of types of flukes. However this ingredient breaks down quickly in warm, alkaline water, normally the guppy's habitat, and a more aggressive treatment than what is prescribed on the remedies is needed. A couple of brand-name remedies include Jungle's Parasite Guard and Aquarium Product's Life Bearer (very safe for fry).

Formalin: This is a solution of formaldehyde gas in water in various percentages. However, this is a dangerous chemical and it must be used with caution-do not come in physical contact with it and do not inhale the vapour. It removes oxygen and can damage the gills (aeration is important); it adversely affects your bio filter; some plants are sensitive to formalin; it is more toxic in soft water; store away from any light. With light, a toxic white substance develops - in this case do not use it. Quick Cure by Aquarium Products contains 99.2% formaldehyde. NEVER mix Formalin and potassium permanganate because the combination can be explosive.

Flukes often reappear and it may take many treatments before they are eradicated. Be careful not to contaminate other tanks when you see an outbreak because flukes can spread easily in just a drop of water! Make frequent water changes, keep the filter clean and rinse all maintenance gear with very hot water.

Gill Flukes "Gill Worms"

There are 3 types of these parasites and their effect is sometimes called "Gill Disease". The symptoms are reddened/inflamed/bleeding/slimy gills, growths, and heavy breathing near

the water surface. There are actually 3 types and they eventually destroy the gills. One type, Diplozoa, is large enough to be seen (1.5 cm) and appears to be a grey/brown worm in the gills. The gills will bleed and the fish will have trouble breathing.

Body Flukes

These seem to be common in guppy tanks. Gyrodactylus, a sucking worm, is a live bearer on its own. It attacks the skin and can only be seen under a microscope. Usually the first symptom a guppy shows is scratching on ornaments or the bottom in an effort to rid itself of the parasite. Imagine yourself with leeches all over! Fry normally display closed tails, or "pin tail" as they grossly affect the fins. The tail may completely fall off. Heavy infestations cause a greyish look to the skin, sometimes even inflammation and redness. Usually fry are dead before they succumb to this symptom. Action must be immediate with young guppies.

Internal Parasites

Intestinal Worms

These are nematodes, also called roundworms or threadworms. The most commonly seen in guppies is Camallanus, which can reach up to 2 cm in length. They are reddish-brown or orange, and can be seen protruding from the anus like a tiny paintbrush. These worms are occasionally seen in guppies that have been kept in ponds and fed live Cyclops (avoid feeding your fish this food). Cyclops can also be introduced with new live plants, so make sure to wash your new plants thoroughly before adding them to your tank. Other intestinal worms usually do not pose a threat in aquariums since they have a rather complicated life cycle, but Camallanus nematodes are capable of passing from one fish to another. It may be advisable to destroy the infected fish, unless it is a valuable breeder, and use an anthelmintic treatment on the tank. Such medication is hard on guppies, particularly pregnant females. You can try Jungle's Internal Parasite Guard, Pepso food, and Tetra's Anti-Parasite Medicated flakes. Garlic helps ward off these worms and many breeders add it to their dry food or beef heart recipe.

I suggest you read the article Hospital tank for basic information on administering any treatment!

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